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I am pleased to submit the 2002 Fresno County Agricultural Crop and Livestock Report. This annual compilation presents statistical data pertaining to the acreage, yield, and gross value of Fresno County agricultural products.

The total gross production value of Fresno County agricultural commodities in 2002 was \$3,419,087,000. This represents a 6.18 percent increase from the 2001 production value. It must be emphasized that the values presented in this report reflect gross values only, and do not in any manner reflect net income or loss to producers. The agricultural economy remains depressed. Growers continue to have difficulty meeting financial obligations and obtaining operating capital. Growers are still being adversely impacted by low commodity prices and increased production costs, particularly in the areas of labor, water, fuel and energy.

Agriculture continues as the major industry in Fresno County, and is a driving force in the county's economy. Every dollar received by Fresno County producers results in the economic extension benefit of three and one-half dollars to the total economy of the county.

I sincerely appreciate the professional and dedicated work performed by Deputy Agricultural Commissioner/Sealer Dennis C. Plann; Supervising Agricultural/Standards Specialist Bruce Clayton; Agricultural/Standards Specialists Scotti Walker, Jennifer Fulbright and Brice Gross; and Seasonal Agricultural/Standards Specialists Cézanne Baker and Royann Delgado, as well as the rest of my staff at the Department of Agriculture for the preparation of this report.

My thanks to the many individuals, related agencies, and members of the agricultural industry for their contributions to the compilation of this report.

Sincerely,

Jerry Prieto, Jr.
Agricultural Commissioner/Sealer

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"We understood the rhythms of farming. Spring meant work, summer meant harvest, fall a time for gratitude, and winter a pause for reflection."

*"Epitaph for a Peach
Four Seasons on My Family Farm"*

David Mas Masumoto

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This report is also available at our internet site:
<http://www.fresno.ca.gov/4010/agwelcm.htm>

FRESNO COUNTY'S 10 LEADING CROPS

Crop	2002 Rank	2002 Dollar Value	2001 Rank	1992 Rank	1982 Rank
GRAPES	1	\$ 400,255,000	2	1*	1
COTTON	2	345,189,000	1	2	2
POULTRY	3	270,851,000	3	+	+
TOMATOES	4	265,887,000	5	3	4
MILK	5	199,937,000	4	4	5
ALMONDS	6	196,565,000	7	11	15
CATTLE AND CALVES	7	177,445,000	6	5	3
ORANGES	8	138,654,000	8	7	8
GARLIC	9	131,004,000	9	16	17
PLUMS	10	<u>111,500,000</u>	12	12	7
TOP TEN TOTAL		\$2,237,287,000			

+ Not previously combined for ranking purposes

* Revised

2002 Highlights in Retrospect

January:

Mild temperatures and ample soil moisture contributed to vigorous growth in grain, vegetable, and forage crops. Wet conditions restricted most field work until late in the month. Grapevines were pruned and tied; nut and tree fruit orchards were pruned and treated for dormant season pest control. Vineyards and orchards were pulled out and new ones were planted; fresh varieties of tree fruit and grapes were grafted onto existing rootstocks. Fields were prepared for planting of summer vegetables. Navel oranges, Satsuma tangerines, and tangelos were picked.

February:

Cold temperatures early in the month helped with chilling requirements for tree fruit, followed by warmer conditions that spurred good progress in spring crops. Tomato planting began in the west side districts. Pruning, tying, brush shredding, disking, and herbicide applications were in progress in grape vineyards. Nut and tree fruit growers applied dormant sprays and herbicides. Bloom began in almond and tree fruit orchards later in the month. Strawberry plants showed new growth. Rangeland grasses grew vigorously. Beehives were placed in almond and tree fruit orchards. Navel oranges were harvested.

March:

Harvesting of winter forage began. Cotton and rice planting started as soil temperatures warmed. Cutting, windrowing, and drying of alfalfa hay began. Fields were prepared for planting of summer vegetables; tomato, onion, and garlic plantings were thriving. Lettuce, broccoli, and asparagus were harvested. Sugar beets and corn were planted; sprouted plants were visible by the end of the month. Strawberries and blueberries began to bloom; fields were weeded and treated to control mildew. Bloom was widespread in almond and tree fruit orchards. Bud break began in grape vineyards. Grape, nut, and tree fruit growers made applications of insecticides and fungicides.

April:

Grain fields were irrigated and seedhead development was good. Cotton planting was in full swing; many cotton growers incorporated insecticides during planting. Hay and seed alfalfa plantings were treated to control insect pests and weeds. Sugar beet fields were irrigated, cultivated, and treated to control insect pests. Fruit set in tree fruit orchards appeared good and fruit thinning began; some tree fruit varieties were girdled to improve fruit size. Strawberries were picked and sold at roadside stands. Vegetable and melon plantings were thriving, and planting of new fields continued. Bees were active in blooming citrus and apple orchards. Valencia oranges were picked and packed.

May:

Rain and hail on May 20 damaged tree fruit, citrus, grapes, vegetables, and hay in the Clovis, Sanger and Reedley districts. Grain plantings matured well; wheat, oat hay, and winter forage were harvested. Cotton growth was slowed by erratic weather early in the month but improved as conditions stabilized. Alfalfa hay was cut, windrowed, and baled; bloom began in seed alfalfa. Rice, field corn, and sweet corn were planted; emerged stands showed good growth. Safflower fields were in bloom. Lettuce, broccoli, asparagus, garlic, and onions were harvested. Vegetable crops were thinned, irrigated and treated to control insect pests. Sweet corn and silage corn were harvested. Boysenberry and raspberry vines bloomed and had good fruit set; strawberries and blueberries were harvested. Cherries, apricots, nectarines, and peaches were picked and packed. Tender new grape leaves were harvested for food use. Leaf and shoot thinning, and applications of growth hormones were in progress in table grape vineyards. Almonds, walnuts, pistachios, and pecans developed well and were irrigated. Pomegranates bloomed and set fruit; apple orchards were treated to control disease and insect pests. Valencia oranges were harvested; lemons and oranges were brought in from other counties for packing and shipping. Sheep were treated to their spring shearing.

June:

Ideal growing conditions prevailed; wheat, barley, oats, summer vegetables, melons, stone fruit, and a wide variety of specialty vegetables were harvested. Cotton plants bloomed and were weeded by hand crews. Harvesting of alfalfa hay and feed silage continued; alfalfa seed fields were in bloom and full of bees aiding in pollination. Sugar beet harvesting started in the west side districts. Safflower fields began to bloom. Fields of rice grew vigorously and were treated to control weeds. Field corn, silage corn, corn for chips and snacks, and sweet corn for human consumption were harvested. Blackeyed beans were planted. Table grape clusters were thinned and tipped to improve fruit quality. Raisin, wine, and table grape vineyards were irrigated and treated to control diseases and insect pests. Pomegranates were sizing well and developing color. Fresh figs, strawberries, blackberries, boysenberries, and blueberries were harvested. Valencia oranges were harvested; citrus orchards were irrigated, fertilized, and treated to control insect pests. Olive orchards were treated to control olive fruit fly. Bees were active in seed alfalfa and melon fields. Hot, dry conditions were the norm in rangeland; dairy cattle were cooled by fans and misters as temperatures rose.

July:

Harvesting of wheat, oats, and barley was complete; straw was cut, baled, and stacked. Harvested grain fields were left fallow, grazed by sheep, or disced and leveled to prepare for the next crop. Cotton bloom was widespread and good boll development was reported. Plant growth regulator was applied in some cotton fields to advance boll maturity. Alfalfa hay and alfalfa seed fields showed strong growth; alfalfa seed fields were in bloom. Safflower fields were drying in the heat. Field corn, silage corn, and sweet corn were harvested. Dry beans were growing well and being irrigated. Sugar beets and sweet potatoes developed rapidly; sugar beet harvesting continued in mature fields. Table grape harvesting began and expanded as the month progressed. Grape vineyards were irrigated and treated to control mildew, mites, and vine mealybug. Peaches, plums, nectarines, apricots, and pluots were harvested and shipped to consumers around the world. Good fruit development continued in pomegranate, apple, and persimmon orchards; Gala apples were harvested. Melons and summer vegetables were harvested throughout the county. Citrus orchards were irrigated and fruit development was steady. Almonds began to show hull split; growers prepared orchard floors for harvest. A gypsy moth was found in a trap in the Tarpey Village area of Fresno County, but a followup trapping program produced no subsequent finds.

August:

Harvested grain fields were left fallow or prepared for their next crop. Wheat was planted for winter forage. Good seed set took place in alfalfa seed fields; alfalfa hay and Sudan grass hay were cut, windrowed, and baled. Boll set and development progressed in cotton fields; open bolls were evident at month's end. Sugar beets, safflower, and dry beans were harvested. Rice fields were allowed to dry and mature. Stone fruit, pears, apples, pomegranates, figs, and Asian pears were picked, packed, and shipped from county orchards. Table, wine, and raisin grape harvesting was in full swing; canes were cut in DOV (dried on the vine) raisin vineyards to start fruit drying. Melons, tomatoes, onions, garlic, squash, eggplant, cucumbers, peppers, and sweet corn were harvested. Vegetable fields were planted to broccoli, lettuce, and cabbage. Steady fruit development continued in citrus orchards; irrigation, insect control treatments, and summer pruning were underway. Almond harvesting began; walnuts, pecans, and pistachios made good progress. Sheep grazed in some harvested grain and melon fields; rangeland was dry with little forage available.

September:

Light rain showers fell early in the month but no crop damage was reported. Harvesting of melons and summer vegetables slowed as weather cooled. Lettuce, broccoli, and cabbage plantings had emerged and were growing well. Cotton maturity advanced; defoliant was applied to prepare for harvest. Pima cotton was irrigated and treated to control insect pests. Alfalfa seed harvesting was completed; mowing, windrowing, drying, and baling of alfalfa hay and Sudan grass hay continued. Rice, dry beans, sugar beets, field corn and silage corn

September (continued):

harvesting continued throughout the month. Grains planted for winter forage showed good germination; preparation of new fields for winter forage planting continued. Harvesting of DOV (dried on the vine) raisins began at month's end. Raisins and excess table grapes were hauled to dehydrators for processing. Stone fruit orchards and table grape vineyards continued to produce a large variety of fruit but production slowed somewhat in response to cooler weather. Almonds, walnuts, pecans, and pistachios were shaken, raked, picked up and hauled to processors. Pomegranates, apples, figs, Asian pears, and pineapple quince were picked and packed. Valencia oranges were picked in a few orchards; some unharvested orchards were treated with growth regulators to help fruit remain on the trees. Beekeepers removed hives from the field, extracted honey, and prepared them for the dormant season.

October:

Cotton harvesting started with good yields reported. Fields were prepared for planting of winter grains; winter forage planted earlier was growing well. Broccoli, lettuce, cabbage, and cauliflower harvesting began, marking the start of the fall vegetable season; lettuce seed was also harvested. Melon and summer vegetable harvesting continued but was nearly complete by month's end; harvested fields were prepared for planting of garlic, onion, and other spring vegetables. Rice, sugar beets, sweet potatoes, dry beans, field corn, seed corn, and silage corn were harvested. Harvesting of alfalfa hay continued; new fields of alfalfa hay were planted. Late season table grapes were picked and packed; some vineyards were covered with plastic tarps to protect fruit from potential rain damage. Raisin harvesting was almost complete for the season; a few wine and juice grape vineyards were still being picked. Stone fruit picking was over by the end of the month; orchards were cultivated, pruned, and irrigated. A number of harvested raisin vineyards and stone fruit orchards were pulled out. Harvested almond orchards were pruned and irrigated. Strawberries were picked and sold at roadside stands. Olive harvesting began. Navel oranges, mandarins, pummelos, and lemons were harvested and packed.

November:

Rainfall early in the month slowed cotton harvesting; growers shredded and disced harvested fields to comply with pink bollworm plowdown requirements. New fields of winter grains and forage were planted; emerged fields grew vigorously. Alfalfa hay was cut for baled hay and green chopped for feed. Rice and sugar beet harvesting finished for the season. Table grape harvesting was essentially complete by the end of the month; pruning, cultivation, and herbicide treatments were in progress in harvested vineyards. Pruning, brush shredding, and cultivation were underway in stone fruit orchards. Orchard and vineyard removal continued; piled trees and vines were evident throughout the county. Walnuts, kiwifruit, and persimmons were harvested. Strawberries were picked for commercial packing and sales at roadside stands. Harvesting of lettuce, broccoli, cabbage, and cauliflower continued, along with sweet corn and cantaloupes in the few remaining fields. Harvested fields were prepared for planting of spring vegetables. Navel oranges, mandarins, pummelos, grapefruit, and lemons were picked and packed; new navel orange and Clementine mandarin orchards were planted.

December:

Cotton harvesting was complete by the end of the month with most fields shredded and disced to comply with pink bollworm plowdown requirements. Aircraft were used to plant new grain fields and apply fertilizer to emerged fields. New broccoli fields were planted while harvesting continued in existing fields. Open fields were ripped, disced, and leveled to prepare for planting of new crops. New fields of alfalfa hay, sugar beets, winter forage, onions, garlic, and lettuce were planted. Jerusalem artichokes, a native American root crop, were harvested. Dormant spray applications were underway in tree fruit orchards. Pruning, brush shredding, and cultivation were in progress in grape vineyards and tree fruit orchards. Removal of orchards and vineyards continued throughout the county. Commercial plantings of daikon, you choy, and gailon were harvested. Persimmons were picked and packed. Navel oranges, mandarins, pummelos, grapefruit, and lemons were picked, packed, and shipped. Beehives were in protected locations for overwintering.

FIELD CROPS: The total gross returns for field crops decreased by \$1,718,000 from \$515,807,000 to \$514,089,000. The harvested acreage of barley was up 1,500 acres and the value of the crop increased \$496,000. Cotton, last year's number one crop, fell to the number two position for 2002, decreasing in value \$22,932,000. This was down 6.23 percent from 2001. Returns for alfalfa hay increased \$10,026,000, due in part to an 8,900 acre increase from 2001. Field stubble, which includes alfalfa hay, barley, beans, broccoli, lettuce, melons, oats, tomatoes, and wheat, increased by \$211,000, up from \$1,490,000 to \$1,701,000. Sugar beet acreage increased for the first time in four years. Total production climbed 3.03 percent from 429,000 tons in 2001, resulting in a \$910,000 increase in total value.

SEED CROPS: Total gross returns for all seed crops increased by \$18,125,000, from a total value of \$42,880,000 to \$61,005,000. The returns for alfalfa seed were down 38.77 percent; cotton seed increased in value by \$457,000. Vegetable seed plantings were down 16.28 percent, or 140 acres. The other category of seed crops was up \$22,916,000 in value.

VEGETABLE CROPS: The total gross returns for vegetable crops increased \$127,460,000, from \$737,992,000 to \$865,452,000. Bell peppers decreased in value by \$9,470,000 and asparagus was up \$2,492,000. The garlic crop was up in value by \$7,150,000. Fresh garlic decreased in value 16.15 percent; processed increased 31.95 percent. The value of the head lettuce crop was down \$12,394,000 despite an increase in fall lettuce of \$4,392,000. Cantaloupes increased in both the yield per acre and price per ton, but the value of the crop dropped \$82,000, due to a reduction of 1,400 harvested acres. Gross returns for honeydew melons were up 31.97 percent. The fresh onion crop increased in value by \$27,918,000. Total gross returns for standard tomatoes increased by 38.67 percent and the processed tomato crop was up in value \$50,133,000.

FRUIT AND NUT CROPS: The total gross returns for fruit and nut crops increased by \$166,195,000, from a 2001 value of \$1,069,231,000 to \$1,235,426,000. The value of the almond crop increased \$46,894,000 which resulted in a move from seventh place in 2001 to sixth place in 2002 on the county's top ten crop ranking. The total value for cherries increased 74.68 percent, from \$15,764,000 in 2001 to \$27,536,000 in 2002. The value of the orange crop dropped to \$138,654,000, down 5.12 percent from last year. Grapes, previously ranked second in 2001, were reinstated as Fresno County's number one crop for 2002. The value of the grape crop was \$400,255,000, up \$57,120,000 from the 2001 value of \$343,135,000. It was a good year for nectarines, the crop increased in value \$6,867,000. Peaches were down \$2,346,000 and plums increased in value \$16,062,000. The total value of both pistachios and prunes increased; pistachios climbed 42.16 percent and prunes 7.67 percent in value. Walnut plantings increased by 342 acres, but the value of the crop was down \$777,000.

NURSERY: The gross returns from sales of nursery products increased by \$392,000, from \$32,013,900 to \$32,406,600. The production of Christmas trees, up by 116.67 percent, had a value of \$54,600. The returns for other nursery products, which include bareroot fruit trees, citrus (budwood and trees), grape (rootings and cuttings), vegetable transplants, and turf, decreased from \$20,383,000 to \$19,786,000.

LIVESTOCK AND POULTRY: The total gross returns for livestock and poultry decreased 13.69 percent from the value of \$537,148,000 to \$463,635,000. For the second straight year, cattle and calves were the seventh most valuable crop in the county at \$177,445,000. The value of hogs and pigs decreased by 16.90 percent, or \$1,056,000, from the 2001 value. Total lamb production was up 2.68 percent, but decreased in total value by \$485,000, from \$4,444,000 to \$3,959,000.

LIVESTOCK AND POULTRY PRODUCTS: The total value of livestock and poultry products decreased \$41,387,000, from \$268,185,000 to \$226,798,000. The price of manure was down \$0.05 a ton and production was down 10,000 tons. Manufacturing milk production was down by 13,700 hundredweight in part because of a decrease of \$2.48 per hundredweight paid to dairymen. The value of market milk was down 19.50 percent. Wool production remained the same, but was up in value \$6,000. The value of chicken, duck, and turkey eggs was up \$7,297,000.

APIARY PRODUCTS AND POLLINATION SERVICES: Gross returns for apiary and pollination services increased by \$1,380,500, from \$9,798,900 to \$11,179,400. The total value of honey increased \$1,405,000 in 2002, while beeswax was down 19.10 percent, from \$75,900 to \$61,400. The value of pollination services for alfalfa seed fell \$485,000 as a result of a 55.81 percent reduction in the number of colonies used.

INDUSTRIAL CROPS: The total value of industrial crops increased 29.09 percent or \$2,050,000. Timber production was down \$4,086,000 board feet and its value fell \$1,421,000. Firewood was up 3,000 cords and increased in value \$219,000.

SUSTAINABLE AGRICULTURE

2002 BIOLOGICAL CONTROL ACTIVITIES

PEST	B. C. AGENT/MECHANISM	ACTIVITY
Puncture Vine	Puncture Vine Weevils	Collected adults for release in foothills.
Yellow Starthistle	Peacock Fly	Released 300 flies at ranch in Miramonte.
Yellow Starthistle	Hairy Weevil	Released 50 pupae at ranch in Miramonte.
Various	Various	Attended Bio Control conference at U.C. Davis on August 15 and 16.

2002 DETECTION ACTIVITIES

INSECT	TRAPS DEPLOYED	RESULTS
Medfly	873	Two sterile flies trapped
Mexican Fruit Fly, other Anastrepha, Bactrocera and Ceratitis sp.	533	None captured
Oriental Fruit Fly	315	None captured
Melon Fly	307	None captured
Gypsy Moth	509	One trapped in Japanese Beetle trap
Japanese Beetle	320	None captured
Glassy-Winged Sharpshooter	1,411	Two nurseries and numerous residences positive

SUSTAINABLE AGRICULTURE

PEST ERADICATION

RED IMPORTED FIRE ANT: In early January, another RIFA infestation was found. A call from a homeowner/almond farmer alerted us to the infestation around his home at Thompson and Ashlan. The home was bordered by citrus on the south and east sides and by almonds on the north side. The infestations were found in the yard of the home and around some of the citrus trees. Nothing was found near the almonds. It is still not clear how they were introduced. The state is still in the process of eradicating the colonies.

GLASSY-WINGED SHARPSHOOTER: GWSS continued to be eradicated/controlled by Fresno County. The overall number of positive properties was way up this year as opposed to 2001. As these properties were found, they were treated with *Merit*. The general distribution though has stayed approximately the same, except for one positive find in a citrus grove near Alta and Dinuba Avenues near Orange Cove. The owner promptly treated this grove but it is not yet known how successful the treatment was.

NEW AND UNUSUAL PEST OUTBREAKS IN 2002

Two new pests were found in Fresno County this year. The first of these was a **whitefly**, called *Aleurotuberculatus aucubae*. It is native to Japan but was found here by Agricultural/Standards Specialist, Wayne Peregrin, while doing a delimitation survey for Glassy-Winged Sharpshooter. It was initially found in the Sunnyside area of Fresno, but has subsequently been found in various parts of Fresno and Clovis. The nymphal/pupal stage is tiny and black with some white waxy filaments on top of the body and along each side. Numbers per leaf are small and they don't appear to produce much honeydew. This is the only area in the Western Hemisphere where this whitefly has been found.

The second pest was an aphid that attacks Chinese Hackberry. Commonly called the **Asian Woolly Hackberry Aphid** (*Shivaphis celti*), it was first found on some recently planted Hackberry trees at the USDA facility in Parlier. It is now also being found on more mature trees in the Fresno area. Aphids are covered with copious amounts of wax and secrete large amounts of sticky honeydew. The wax and honeydew together make a huge mess on the tree and on objects beneath it. Hackberry was a relatively pest-free tree here in Fresno, but now that will no longer be true.

2002 ORGANIC FARMING

Gross returns for organic farming in 2002 totaled \$16,776,177. A large variety of crops were produced in compliance with current organic regulations. Over eighty farms totaling 8,960 acres and 21 handlers (shippers/packers) were registered organic in Fresno County in 2002. Crops grown, packed, and shipped include alfalfa, almonds, apples, apricots, arugula, artichokes, barley, basil, beans, beets, bell peppers, blueberries, broccoli, cabbage, cantaloupe, carrots, cattle, cauliflower, celery, chard, cherries, cilantro, corn, cotton, cucumbers, daikon, eggplant, endive, fennel, figs, garlic, grapes, grapefruit, kiwifruit, leeks, lemons, lettuce, milk, nectarines, nursery plants, okra, olives, onions, oranges, parsley, parsnips, peaches, peas, peppers, persimmons, pistachios, plums, pluots, pomegranates, potatoes, pummelos, radishes, raisins, shallots, spinach, squash, strawberries, tangerines, tomatoes, tomatillos, turkeys, walnuts, watermelon, and wheat.